महाराष्ट्र विद्युत नियामक आयोग
Maharashtra Electricity Regulatory Commission

Ref. No. MERC/FAC/2024-25/ 0641 **Date: 15 October , 2024**

To,
The General Manager
The Brihanmumbai Electric Supply and Transport Undertaking
BEST Bhavan, BEST Marg
Post Box No. 192
Mumbai 400 001.

Subject: Prior Approval of Fuel Adjustment Charges (FAC) submission of BEST Undertaking for the month of January, 2024.

Reference:

1. FAC submission dated 23 February, 2024 by BEST Undertaking for prior approval of FAC for the month of January, 2024.
2. Data gaps communicated to BEST vide email dated 11 April, 2024.
3. BEST's response to data gaps on 19 April, 2024.

Sir,

Upon vetting the FAC calculations for the month of January, 2024 as mentioned in the above reference, the Commission has accorded approval for FAC Amount of **Rs. (14.76) Crore**. However, the total amount of FAC Fund after adding the FAC amount for January, 2024 is **Rs. (151.12) Crore** and the same is being carried forward to next FAC billing cycle with holding cost as per the Order dated 31 March, 2023 in Case No 212 of 2022. Accordingly, the FAC chargeable to its consumers is as shown in the table below:

Month	FAC Amount (Rs. Crore)
January, 2024	**0 (Zero)**

BEST shall maintain the monthly account of FAC Fund and upload it on its website to maintain transparency of FAC Fund and also for information of all the stakeholders.

BEST is also directed to submit a copy of the monthly Bill after levy of FAC as approved by the Commission.

Yours faithfully,

(Dr. Prafulla Varhade)
Director (Elect. Engg.), MERC

Encl: Annexure A: Detailed Vetting Report for the month of January, 2024.

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ANNEXURE A

Detailed Vetting Report

Date: 15 October,2024

PRIOR APPROVAL FOR FAC CHARGES FOR THE MONTH OF JANUARY 2024

Subject: Prior Approval of Fuel Adjustment Charges (FAC) submission of BEST Undertaking for the month of January, 2024.

Reference:

1. FAC submission dated 23 February, 2024 by BEST Undertaking for prior approval of FAC for the month of January, 2024.
2. Data gaps communicated to BEST vide email dated 11 April, 2024.
3. BEST's response to data gaps on 19 April, 2024.

1. **FAC submission by BEST Undertaking:**

1.1 BEST Undertaking ('BEST') has submitted FAC submissions for the month of January, 2024 as referred above. Upon vetting the FAC calculations, taking cognizance of all the submissions furnished by BEST against the data gaps issued, the Commission has accorded prior approval to BEST for negative FAC amount of **Rs. 14.76 Crore** for the month of January, 2024. The approved FAC amount is being added to the FAC Fund and the total amount of Rs. (151.12) Crore is being carried forward to next FAC billing cycle with holding cost as per the MTR Order dated 31 March, 2023 in Case No. 212 of 2022 (herein after referred to as "Tariff Order").

2. **Background**

2.1 On 31 March, 2023, the Commission has issued Tariff Order for BEST (Case No.212 of 2022) for Truing-up of FY 2019-20, FY 2020-21 and FY 2021-22, provisional Truing-up for FY 2022-23, and Aggregate Revenue Requirement and Tariff for FY 2023-24 and FY 2024-25. Revised Tariff has been made applicable from 1 April, 2023.

2.2 In the Tariff Order, the Commission has stipulated methodology of levying FAC as follows:

"8.17 Stabilising variation in consumer bill on account of FAC

………………

8.17.4 Therefore, using its powers for Removal of Difficulties under Regulations 106 of MYT Regulations, 2019, the Commission is making following changes in FAC mechanism stipulated under Regulation 10 of MYT Regulations, 2019:

a) Distribution Licensee shall undertake computation of monthly FAC as per Regulation 10 of the MYT Regulations, 2019 except for treatment to be given to negative FAC as follows:

i. Negative FAC amount shall be carried forward to the next FAC billing cycle with holding cost.

ii. Such carried forward negative FAC shall be adjusted against FAC amount for the next month and balance negative amount shall be carried forward to subsequent month with holding cost.

iii. Such carry forward of negative FAC shall be continued till next tariff determination process.

iv. In case such FAC Fund is yet to be generated or such generated fund is not sufficient to adjust against FAC computed for given month, then Distribution Licensee can levy such amount to the consumers through FAC mechanism, upon seeking prior approval from the Commission.

8.17.5 In order to maintain transparency in management and use of such FAC Fund, Distribution Licensee shall maintain monthly account of such FAC fund and upload it on its website for information of stakeholders.

8.17.6 As the Commission has continued concept of FAC fund as stated above to stabilize the increase in fuel prices and power purchase costs, the Commission has modified the FAC mechanism such that the Distribution Licensees shall submit the FAC computations on a monthly basis for prior approval, irrespective of whether FAC is chargeable in a month or whether some amount is accruing to the Fund on account of negative FAC.

8.17.7 The details of the FAC as per the Regulations, shall be submitted by the 15th of every month prior to the month on which the FAC is proposed to be levied and the Commission will endeavour to decide the same within 10 days so that the same can be levied from the 1st of the subsequent month."

2.3 Vide its letter dated 20 April, 2020, the Commission communicated the excel formats along with the checklist to file FAC submissions for prior approval to all Distribution Licensees. The Commission also directed all Distribution Licensees to file FAC submissions by 15th of every month prior to the month for which the FAC is proposed to be levied for prior approval.

2.4 Accordingly, BEST has filed FAC submissions for the month of Janaury, 2024 for prior approval of the Commission. The Commission has scrutinized the submissions provided by BEST and has also verified the fuel and power purchase bills provided along with its submissions.

3. Energy Sales of the Licensee

3.1 The net energy sales within licence area as submitted by BEST in the FAC submission and as approved by the Commission are as shown in the table below:

Table 1: Energy Sales Approved and Actual for the Month of January 2024(MUs)

Consumer Category	Approved by the Commission (MU)	Monthly Approved* (MU)	Actual Sales
			January, 2024(MU)
	(I)	(II=I/12)	(III)
HT I- Industry	194.20	16.18	14.01
HT II - Commercial	245.97	20.50	16.10
HT III - Group Housing Society (Residential)	32.12	2.68	2.67
HT IV – Railways/Metro/Monorail	2.57	0.21	0.21
HT V - Public Services			
a) Govt. Edu. Inst. & Hospitals	27.78	2.32	2.50
b) Others	197.17	16.43	15.25
HT-VI EV Charging Stations	-	-	-
Total HT Sales	**699.82**	**58.32**	**50.73**
LT I (A)- Residential (BPL)	0.04	0.00	0.00
LT I (B)- Residential	2,166.87	180.57	153.12
LT II - LT Commercial			
(A)- upto 20 kW	909.14	75.76	66.02
(B) >20 kW and <50 kW	179.30	14.94	14.74
(C) - 50 kW	365.40	30.45	31.71
LT III (A) - Industry < 20 kW	112.08	9.34	8.66
LT III (B) - Industry > 20 kW	83.80	6.98	6.52
LT IV - Public Services		-	
a) Govt. Edu. Inst. & Hospitals	61.40	5.12	5.52
b) Others	187.76	15.65	15.47
LT V(A) – Agriculture Pumpsets	-	-	-
LT V(B) – Agriculture Others	0.05	0.00	0.02
LT VI - EV Charging Stations	20.90	1.74	2.62
Total LT Sales	**4,086.73**	**340.56**	**304.41**
Total	**4,786.55**	**398.88**	**355.14**

**- Monthly approved sales is derived based on average of annual sales for comparison purpose.*

3.2 With respect to sales submitted by BEST as per Guidelines dated 19 May 2021, it is observed that the actual sales for the month of January 2024 is 355.14 MU which is lower by 10.97% as compared to the approved energy sales of 398.88 MU. With respect to the consumption, HT category consumption is 50.73 MU which is on a lower side by 13.01%% compared to approved monthly HT energy sales of 58.32 MU and decrease in the sales has been noticed of 10.62% on LT side whereby the actual sales is 304.41 MU as compared to approved monthly LT energy sales of 340.56 MU. The variation was observed across few categories due to temperature variation (Seasonal variation).

3.3 However, HT V - Public Services ((a) Govt. Edu. Inst. & Hospitals, LT II - LT Commercial (C) - 50 kW, LT IV - Public Services a) Govt. Edu. Inst. & Hospitals and

LT-VI Electrical Vehicle Charging have witnessed sales higher than the approved monthly sales whereas other categories have witnessed lower sales than the approved monthly sales.

3.4 BEST has also submitted the data providing actual billing and estimated billing undertaken for the calculation of total energy consumption for the month of January 2024. BEST further submitted the number of actual and estimated meter readings undertaken for the month of January 2024 as shown below:

Table 2: No. of Meters reading on actual and estimated basis for January 2024

Sr. No.	Particulars	No. of Meters for which actual meter reading is done either manually or through AMR	No. of Meters for which meter reading are estimated.	Total Meters
1	HT	195	0	195
2	LT	994833	56652	1051485
	Total	**995028**	**56652**	**1051680**
	%	**94.61%**	**5.39%**	**100.00%**

In response to data gaps raised by the Commission pertaining to increase in estimated reading of LT meters, BEST submitted that estimated reading cases increased due to the fact that it has started the drive of replacement of existing electronics meter by smart meter under RDSS project from the month of December 2023. Due to replacement process, reading of old meters were not found on site in the various cases. Hence the billing of these meters were done on estimated basis.

3.5 Accordingly, the Commission has also analysed the comparison of estimated sales and sales based on actual meter reading for last 6 months and it was observed that the assessed sales percentage has been constant for past several months and is around 2% barring in the month of January 2024 wherein the estimated sales were 4.37% of the total sales.

Table 3: Actual and Estimated Sales of past 6 months

Particulars	Aug-23	Sept-23	Oct-23	Nov-23	Dec-23	Jan-24
Actual – MUs	373.24	406.24	407.85	433.63	378.35	339.63
Estimated – MUs	3.86	3.51	3.26	3.72	7.72	15.51
Total	**377.10**	**409.74**	**411.11**	**437.36**	**386.08**	**355.14**
% Sales based on Estimated Reading	1.02%	0.86%	0.79%	0.85%	2.00%	4.37%

3.6 **As per the data, 100% of HT billing is undertaken on actual basis due to Automatic Meter Reading (AMR) in place whereas under LT category, the billing of about 94.61% is undertaken as per actual meter readings and balance 5.39% is on estimated basis. Also, with respect to consumption, under LT Category, about 94.90% consumption is undertaken as per actual meter readings and balance 5.10% is on estimated basis.**

3.7 Further, comparison of sales of January 2024 as compared to last year are as shown below:

Table 4: Monthly Comparison of Sales for Residential, LT (Others) and HT Category

Particulars	LT - Residential (MU)	LT Others (MU)	HT (MU)	Total (MU)
Apr-22	180.93	155.77	55.55	392.25
Apr-23	184.04	158.85	55.87	398.76
May-22	216.56	171.07	60.05	447.69
May-23	200.25	164.14	61.76	426.16
Jun-22	195.61	162.95	58.17	416.73
Jun-23	195.78	167.29	60.96	424.02
Jul-22	172.68	152.05	57.50	382.24
Jul-23	195.92	166.11	58.17	420.19
Aug-22	175.34	148.81	56.13	380.28
Aug-23	169.33	150.12	57.65	377.10
Sept-22	181.42	152.17	54.74	388.34
Sept-23	188.19	166.50	55.05	409.74
Oct-22	175.91	154.98	55.18	386.07
Oct-23	189.34	163.22	58.55	411.11
Nov-22	173.52	152.43	52.44	378.38
Nov-23	206.09	176.74	54.53	437.36
Dec-22	150.04	142.45	52.92	345.41
Dec-23	175.51	158.09	52.47	386.08
Jan-23	139.99	140.32	47.14	327.45
Jan-24	153.12	151.28	50.73	355.14
April 22 – January 23	**1,762.01**	**1,533.00**	**549.83**	**3,844.84**
April 23 – January 24	**1,857.57**	**1,622.35**	**565.75**	**4,045.67**

3.8 The Commission observes that the overall sales are higher in January 2024 as compared to January 2023.

4. Power Purchase Details

4.1 The Commission has approved following sources in the Tariff Order for power purchase by BEST.

a) Tata Power Company Ltd. (TPC-G)

b) Manikaran Power Limited

c) Renewable Energy (Solar and Non-Solar)

d) Short Term Sources (Bilateral and Power Exchange).

4.2 In addition to the aforesaid, there may be some variation in real time (unscheduled interchange) which will be settled through Deviation Settlement Mechanism as approved by the Commission from 10 October 2021.

4.3 Summary of Power Purchase for BEST is as follows:

<table>
<tr><th>Sr. No.</th><th>Particular</th><th>Compliance</th></tr>
<tr><td>1</td><td>Sources of approved Power Purchase</td><td>BEST has purchased power from approved sources.</td></tr>
<tr><td>2</td><td>Merit Order Dispatch</td><td>BEST has followed merit order for scheduling of power and preference was given to cheapest power.</td></tr>
<tr><td>3</td><td>Fuel Utilization Plan</td><td>TPC-G has entered into coal contract for 2 MT based on the HBA index for the period 1 August, 2022 to 31 July, 2024. TPC-G has also contracted to procure imported coal at price linked with ICI index till March 2024.

Further, TPC-G has entered into APM Gas Contract with GAIL has been for the period 7 July, 2021 to 6 July, 2026.</td></tr>
<tr><td>4</td><td>Deviation Quantum</td><td>BEST has overdrawn 0.09 MU as compared to Schedule under Deviation Settlement Mechanism.</td></tr>
<tr><td>5</td><td>Sale of Surplus Power</td><td>BEST has sold 10.77 MU of surplus power in January 2024 (para 5.41 below).</td></tr>
<tr><td>6</td><td>Power Purchase</td><td>Actual Net Power Purchase is 364.58 MU as against approved 428.72 MU.</td></tr>
<tr><td>7</td><td>Source wise Power Purchase</td><td><table>
<tr><th>Source Name</th><th>Approved (MU)</th><th>Actual (MU)</th><th>Proportion of each Source in Actual Purchase</th></tr>
<tr><td>TPC-G</td><td>269.28</td><td>275.17</td><td>75.48%</td></tr>
<tr><td>Manikaran Power</td><td>62.22</td><td>73.55</td><td>20.17%</td></tr>
<tr><td>RE Sources</td><td>80.67</td><td>2.96</td><td>0.81%</td></tr>
<tr><td>Net Short Term</td><td>16.55</td><td>12.81</td><td>3.51%</td></tr>
<tr><td>DSM Pool</td><td>-</td><td>0.09</td><td>0.02%</td></tr>
<tr><td>Total</td><td>428.72</td><td>364.58</td><td>100.00%</td></tr>
</table></td></tr>
<tr><td>8</td><td>Power Purchase:
a. Section 62 of Electricity Act, 2003

b. Section 63 of Electricity Act, 2003</td><td>BEST is procuring power from only one source i.e., TPC-G under Section 62 of EA, 2003.

As part of verification of fixed cost claimed by BEST, the same has been verified from the BEST MTR Order in Case No. 212 of 2022.

As part of verification of energy charges claimed by BEST, verification of operational parameters, fuel cost, GCV etc. vis-à-vis the MTR Order/Tariff Regulations is carried out

The Power procurement from Manikaran Power is through competitive bidding and as approved by Commission.
Cost and MUs verified as per Invoice</td></tr>
<tr><td>9</td><td>RE Purchase</td><td>Cost and MUs verified as per Invoice</td></tr>
</table>

Sr. No.	Particular	Compliance
10	Short Term Power Purchase	Short-term power purchase invoices of January, 2024 are submitted by BEST. All the power purchase quantum and rate are verified from the invoices and has been considered for FAC calculation.

4.4 **The BEST has purchased 364.58 MU as against approved 428.72 MU from the sources approved by the Commission.**

4.5 The following table show the variation in average power purchase cost (Rs/kWh) for the month of January, 2024 submitted by BEST as compared to average power purchase cost approved in Tariff Order:

Table 5: Approved and Actual Power Procurement source wise for the Month of January 2024

Particulars	Tariff Order Dated 31.03.2022 FY 2023-24 – Approved			Actual for January 2024 as submitted by BEST		
	Net Purchase	Cost	Average Power Purchase Cost	Net Purchase	Cost	Average Power Purchase Cost
	MU	Rs. Crore	Rs/kWh	MU	Rs. Crore	Rs/kWh
TPC-G	269.28	191.11	7.10	275.17	162.46	5.90
Manikaran	62.22	27.06	4.35	73.55	30.92	4.20
RE Power	80.67	40.49	5.02	2.96	2.51	8.49
REC	-	-	-	-	-	-
Short Term	16.55	12.30	7.43	23.58	15.36	6.52
Deviation Quantum	-	-	-	0.09	0.31	36.34
Gross Total	**428.72**	**254.26**	**5.93**	**375.35**	**211.58**	**5.64**
Less: Sale of Power				(10.77)	(10.12)	9.40
Net Power Procurement	**428.72**	**254.26**	**5.93**	**364.58**	**201.46**	**5.53**

* - Although, power purchase quantum is not approved on monthly basis, the monthly quantum is arrived at based on yearly approved quantum and shown for comparison purpose only

5. **Power Purchase Cost**

5.1 The Commission has sought detailed bills/invoices for all of the power purchase sources in order to verify the claim of BEST with regards to average power purchase cost for the month of January 2024. The Commission has verified the Net Purchase, Variable Cost, Fixed Charge and the Power Purchase Cost from the relevant bills/invoices received for all purchasing sources. BEST has purchased power from approved sources as per the Tariff Order.

<u>**TPC-G**</u>

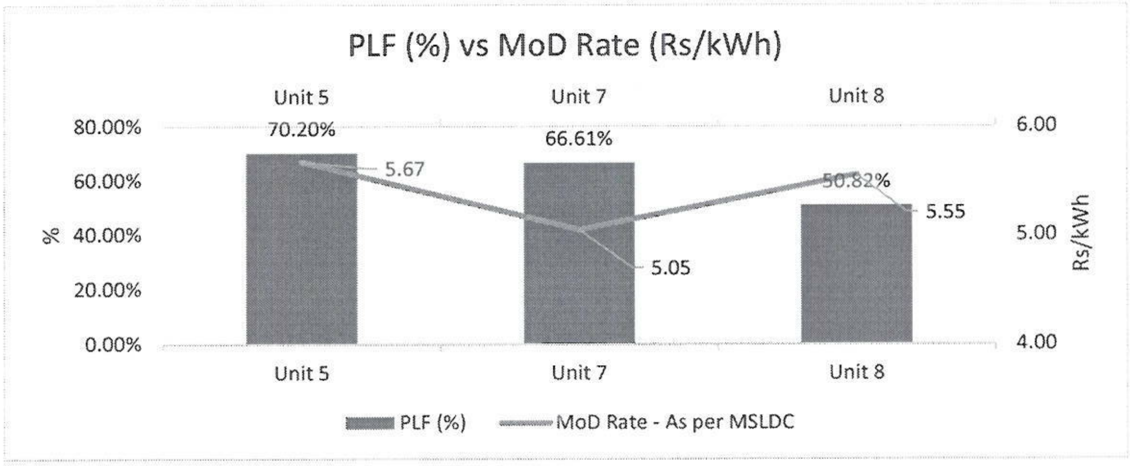
5.2 The Commission in its order dated 2 January, 2019 in Case No 249 of 2018 has allowed BEST to extend its existing PPA for 676.69 MW for a period of five years from 1 April, 2019 to 31 March, 2024. Further, the Commission in its order dated 15 March, 2023 in Case No. 240 of 2022 has allowed BEST to extend existing PPA with TPC-G (Thermal + Hydro) by one more year i.e. till March 2025. In line with the said Order, BEST share is 51.17% of the total capacity of TPC-G Unit 5, 7 and Hydro, whereas its share is 40%

in TPC-G Unit 8.

5.3 Since BEST and TPC-D have same generating source i.e., TPC-G, BEST has submitted and relied upon TPC-D's FAC submissions in respect of TPC generating units (TPC-G) to the extent they are relevant to BEST. The Commission has considered the said submissions of TPC-D in respect of TPC-G, while reviewing the power purchase cost for BEST.

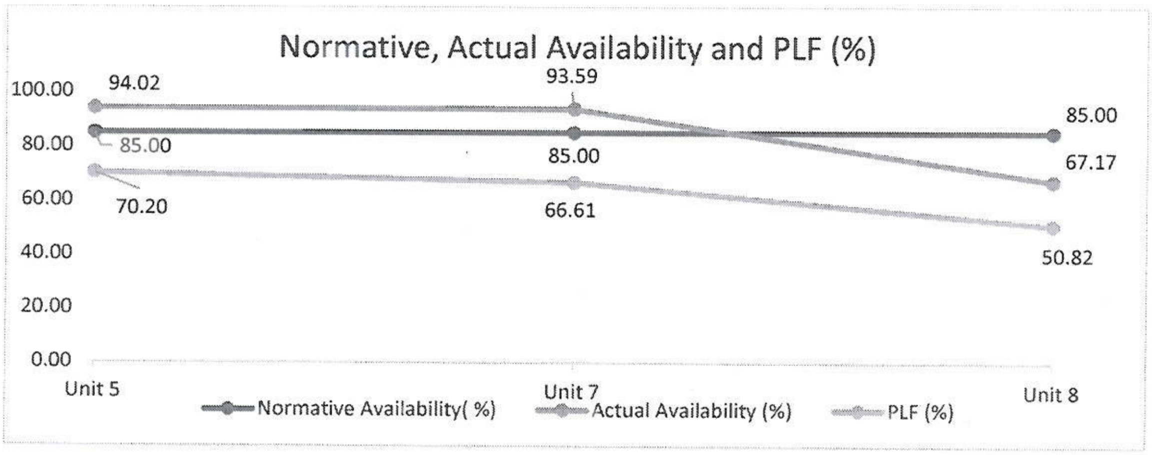
5.4 TPC-G Units 5 and 7 have declared availability of more than 90%, which is higher than the normative availability of 85%. However, the availability of Unit 8 was lower at 67.17% due to planned outage from 21st January, 2024 to 16th February, 2024. Further, the PLF of Unit 5, 7 and 8 are lower i.e., 70.20%, 66.61% and 50.82% respectively. In response to data gaps raised by the Commission for lower PLF of Unit 5, 7 and 8, TPC submitted that the PLF of Unit 5 and Unit 8 is lower due to lower requisition by beneficiaries, and Unit-7 is lower due to lower APM gas availability in addition to lower requisition by beneficiaries. The graph showing the comparison of Variable Cost in MoD Stack and monthly PLF for TPC-G thermal/gas units is given below:

Figure 1: PLF of TPC Generating Units



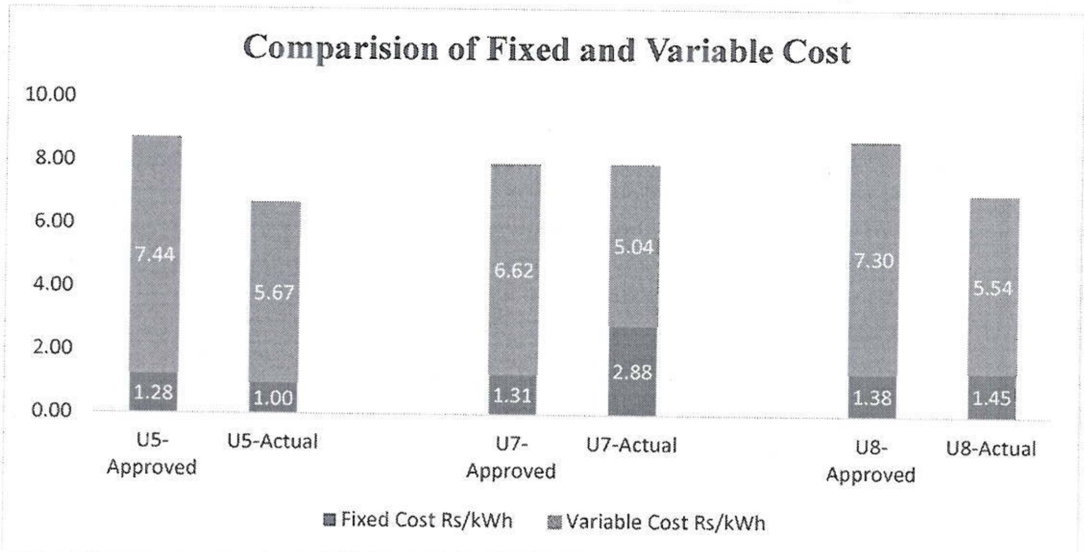
5.5 The graphical comparison of normative availability and actual availability for the month of January, 2024 is as given below:

Figure 2: PAF and PLF of TPC Generating Units



5.6 The entire monthly fixed cost was payable in line with MYT Regulations, 2019 as the cumulative plant availability of Units 5, 7 and 8 were higher than the normative availability of 85%. It is observed that Unit 7 and 8 has lower PLF as compared to Unit-5, which resulted in fixed cost being spread over lower net generation thereby increasing fixed cost per unit than approved by the Commission. The comparison of Actual and Approved Fixed and Variable Cost of Units as shown in the graph below shows the impact of fixed cost due to actual generation.

Figure 3: Comparison of Fixed and Variable Cost of TPC Generating Units



5.7 The Availability of TPC-G units as compared to last year is as given below:

Table 6: Availability of TPC-G plant for the month of January 2024

TPC-G Units	Availability – January 2024	Availability – January 2023
Unit 5	94.02%	54.75%
Unit 7	93.59%	99.98%
Unit 8	67.17%	90.88%

5.8 The Commission has observed that **BEST has purchased 275.17 MU from TPC-G as against monthly approved quantum of 269.28 MU.** Further, the Commission has verified that the payment of Fixed Charges for all the Thermal/Gas Units as well as Hydro Units have been worked out based on the cumulative availability as per the provisions of MYT Regulations, 2019.

5.9 The Commission in its Order dated 31 March, 2023 in Case No 221 of 2022 in respect of Fuel Supply Arrangement (FSAs) of TPC-G as held as follows:

> *"8.4.2 The Commission notes that the projected Availability of all thermal generating Units and hydro generating stations are greater than the normative Availability as specified in the MYT Regulations, 2019. The Commission sought the details of Fuel Supply Agreements (FSAs) in place for achieving the projected Availability for thermal Units. In reply, TPC-G submitted that the current coal supply agreement is valid upto 31 July, 2026 and the current gas supply agreement is valid upto 31 July, 2026. TPC-G further, submitted that the new agreements would be executed subject to the outcome of the finalisation of new PPAs.*
>
> *8.4.3 The Commission sought the details of measures for fulfilling the shortfall in fuel quantum, if any, from the current FSAs. In reply, TPC-G submitted that the current contracts are adequate for meeting the projected Availability of its thermal Units. TPC-G submitted that alternate arrangements have been made based on the type of fuel in case of any non-availability under current contracts due to uncontrollable factors from the existing supplier side. Coal would be arranged through the short-term spot contracts/sourcing distress shipments as and when available on competitive basis from Open Market on need basis. Gas would be arranged through the purchase of RLNG under auction purchase/spot contract, if required. TPC-G submitted that the alternate arrangements would be pursued after due consultation with the beneficiaries as per the prevailing Regulations.*
>
> *… ….*
>
> *8.8.9 The Commission sought the current status of imported coal supply agreement for FY 2023-24 and FY 2024-25. The Commission also sought the basis and detailed rationale for reduction in imported coal prices for FY 2023-24 and FY 2024-25 along with supporting documents. In reply, TPC-G submitted that the coal contracts for the period beyond July, 2024, if required, would be executed through tendering process depending on the market scenario. TPC-G submitted that it has procured coal shipments for Q1 of FY 2023-24 on ICI-3/ICI-4 linked prices. TPC-G submitted the copies of coal contracts.*
>
> *8.8.10 TPC-G further submitted that it has planned to procure coal at the most optimum market price to optimise the cost of generation. TPC-G is closely monitoring the indices on day-to-day basis for procuring the most economic sourcing of coal. Further, the trend of ICI-3/ICI-4 during the period from November 2022 to February 2023 shows a downward trend.*
>
> *… ….*
>
> *8.8.15 The Commission is aware that in FY 2021-22 and FY 2022-23 there has been a very large volatility in the prices of imported coal. The volatility and the increase in the price directly affect the end tariff of the consumers. The Imported coal needs to be procured based on international index. The Commission has analysed the month wise ICI-3 and ICI-4 index imported coal price for FY 2022-*

23 i.e., from April 2022 to March 2023. Based on the analysis and the data available in the Public Domain there looks to be a possibility of softening of imported coal prices. The same is indicated by the imported ICI index as ICI 4 imported coal price for the month of March 2023 has reduced to 72.82 \$/T in March 2023 from 91.39 \$/T in December 2022. (Source www.argusmedia.com). Further, the imported coal price is linked to GCV of coal and hence the imported coal pricing cannot be taken in isolation to GCV of imported coal.

8.8.16 As discussed earlier, the average imported coal price for the latest three months from December 2022 to January 2023 as per the provisions of MYT Regulations, 2019 works out to be around Rs 14072/MT. However, based on the analysis of the ICI 4 index for the past 9 months, the extreme volatility in the imported coal market and in the interest of the consumers, the Commission by exercising its Power to Remove Difficulties under Regulation 106 of MYT Regulations, 2019 has considered the imported coal price of Rs 12500/MT for approving the energy charges for FY 2023-24 and FY 2024-25. This approach of considering imported coal price in deviation to approach as per MYT Regulations, 2019 is in very specific/isolated condition due to volatility of imported coal prices and hence cannot be taken as precedence.

8.8.17 The Commission in MYT Order has considered escalation of 3% in fuel prices for approving the Energy Charges for ensuing years. In case of TPC-G, the major fuel source is imported coal and as submitted by TPC-G the imported coal prices. As discussed earlier, based on analysis of ICI.4 imported coal prices for the period April 2022 to March 2023, there appears to be a possibility of softening of coal prices. Hence, the Commission, for the purpose of this Order, has not considered any escalation in fuel prices for FY 2023-24 and FY 2024-25. ...."

5.10 The previous coal purchase contract of TPC-G, which was for 2.2 Million MT and valid for two years from August 1, 2020, to July 2022, has expired. It has been further extended for an additional two years through competitive bidding, based on the HBA index, for the period from August 1, 2022, to July 31, 2024. TPC-G has stated that, if extension required post expiry of the contract, it would be executed through tendering process depending on the market scenario and outcome of finalisation of new PPA. The Commission notes that the purchase of coal has been from the contracts entered into by TPC-G. TPC-G has stated that in case of any non-availability under current contracts due to uncontrollable factors from the existing supplier side, it would arrange the coal through open market on competitive basis or short-term spot contract. TPC-G has also signed contract with GAIL for supply of APM Gas for the period 7 July, 2021 to 6 July, 2026.

5.11 It is observed that TPC-G has entered into contract to procure Indonesian origin coal with coal specifications similar to TPC-G's long term contracted coal, with price linked to ICI index and the same offers significant cost advantage over HBA pricing. The said contract has been done up to March 2024.

5.12 The net design energy for Bhira, Bhivpuri and Khopoli hydro as envisaged in the MTR order were 736.68 MU, 190.91 MU and 172.58 MU, respectively. It was observed that actual cumulative generation in the month of October 2023 exceeded the net design energy generation. Therefore, net energy generation from November 2023 has been charged at Rs. 1.20/kWh, as per Regulation 51.8 of MYT Regulations, 2019. TPC-G has billed energy charges at Rs. 1.20/kWh for the energy generation exceeding the net design energy of Khopoli hydro. Similarly, Bhira nad Bhivpuri hydro have exceeded the approved net design energy. Therefore, TPC-G has billed energy charges at Rs. 1.20/kWh for the energy generation exceeding net design energy. Subsequently, from the month of January 2024 and onwards the energy charges for bhira and bhivpuri hydro will be Rs. 1.20/kWh. Hence, the Commission notes that TPC-G has levied energy charges in line with MYT Regulations, 2019. Relevant clause from MYT Regulations, 2019 is reproduced below –

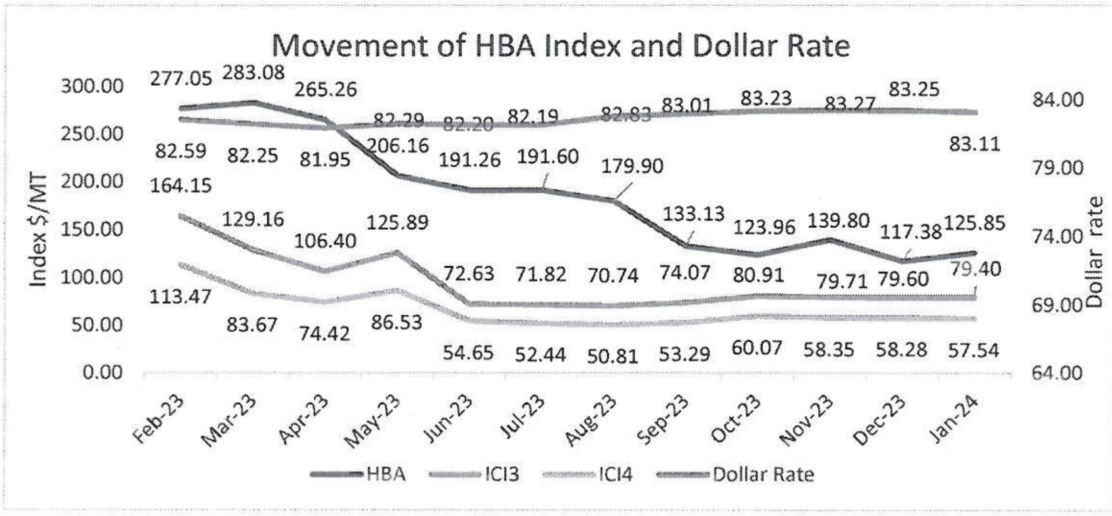
"51.8 In case the Energy Charge Rate (ECR) for a Hydro Generating Station, as computed in Regulation 51.6, exceeds ninety paise per kWh, and the actual saleable energy in a Year exceeds { DE x (1 – AUX) } kWh, the Energy Charge for the energy in excess of the above shall be billed at one hundred and twenty (120) paise per kWh only."

5.13 **The APPC for power procured from TPC-G, which generates power on Imported Coal, Domestic Natural Gas (under APM mechanism), Oil (LSHS), imported RLNG and hydro has been worked out at Rs. 5.90/kWh as against the approved rate of Rs. 7.10/kWh.**

5.14 **The landed cost of coal for energy charge computation as claimed by TPC-G is Rs. 8,140.10/MT as compared to approved rate of Rs. 12,500/MT. It can be seen that the actual landed price is lower as compared to approved rate in the Tariff Order.** TPC-G's thermal power plant at Trombay is operated with 100% Indonesian coal. As mentioned above, TPC-G has purchased Indonesian origin coal linked to ICI4 index in January 24 which is cheaper to optimise the cost. The Commission observes that there has been decreasing trend in the imported coal price primarily attributed to demand supply position of the global coal market which is reflected in the HBA and ICI index for the last few months. The Commission notes that MYT Regulations, 2019 permit use of alternate source of fuel for optimization of economical operation through blending. It is also observed that the price of APM Gas was Rs. 31,532.36/SCM in January, 24 which is also lower than the approved rate of Rs. 41,279/SCM in MTR Order. However, the Commission notes that prices of APM Gas as per notification by Ministry of Petroleum and Natural Gas, Government of India in January 24 was $6.50/MMBTU.

5.15 TPC-G mainly procures imported coal from Indonesian market. As per the Contract, the coal reference price is HBA index i.e., Harga Batubara Acuan and ICI index i.e., Indonesian Coal Index for Indonesian coal which is set by Ministry of Energy and Mineral Resources (Indonesia). The Commission has sought for prevailing HBA/ICI index during the aforesaid period along with the detailed computation of FOB price at which the coal has been procured by TPC-G. The graph below shows the trend of HBA, ICI3 and ICI4 index which is considered by TPC-G for energy charge calculations. It can be observed that the HBA and ICI index has witnessed decrease in trend from June, 2023 onwards onwards with slight increase from September, 2023. Also, the Dollar Exchange rate has marginally decreased in January 2024 as compared to December 2023.

Figure 4: Movement of HBA indices and Dollar Rate



** - HBA indices at 6,322 kcal/kg GAR coal with 8% total moisture, 15% ash as received and 0.8% sulphur*
#-ICI3 index at 4,800 kcal/kg GAR and ICI- 4 index at 4,200kcal/kg GAR.
@ - For the ICI 3 and 4 index, the average rate for the month is considered
$ - Dollar Rate source - www.x-rates.com (Average rate for the month for representation purpose and may not be a reference rate at which Coal is procured)

5.16 The Commission has also sought coal purchase bills considered for January, 2024. The Commission has scrutinised the bills submitted and computed the purchase price of coal for the month of January, 2024 as shown in Table below:

Table 7: Computation of Purchase price of Coal by TPC-G for the month of January 2024

Date	Invoice QTY	GCV	Invoice Rate	Coal Cost	Freight Rate	BF Correction	Freight Payable	Total Coal Cost	$/MT
	MT	kcal/kg	$/MT	$	$/MT	$/MT	$	$	
14-Dec-23	16501	4036	61.83	1020253	14.65	0.28	246359	1266612	76.76
19-Dec-23	55000	4009	60.60	3333000	14.65	0.55	836000	4169000	75.80
23-Dec-23	64020	4057	61.34	3926987	14.65	0.54	972464	4899451	76.53
27-Dec-23	62722	4066	61.44	3853640	14.65	0.64	959019	4812659	76.73
10-Jan-24	66000	4037	60.79	4012140	14.65	0.34	989340	5001480	75.78
Total	**264243**	**4043**	**61.10**	**16146020**	**14.65**	**0.50**	**4003182**	**20149202**	**76.25**

5.17 TPC-G has submitted the detailed coal computation for the coal purchase considered in January, 2024 and also the reconciliation of coal cost considered in Form F12 along with each coal invoice. The coal cost is arrived on the basis of Goods Receipt Note (GRN) in the SAP system which is dependent on the rate of coal purchase (in Rs./MT or USD/MT) considered at the time of coal order (PO) booking. However, the coal cost mentioned in the coal invoice is as per the base price of coal purchase (in Rs./MT or USD/MT) arrived on the basis of actual gross calorific value, Moisture content, Ash content, Sulphur content, HBA indices etc. Once the invoice is booked in the SAP system after GRN of full coal quantity of a shipment, the cost as per coal invoice gets booked against each shipment in the SAP system in order to make payment to the supplier. To facilitate this, the difference between coal cost in Goods Receipt Note (GRN) and coal cost in the invoice is booked as adjustment entry in the SAP. Hence, the coal inventory gets valued ultimately at the invoice values and at the coal purchase rate (in Rs./MT or USD/MT) prevailing on the date of billing.

5.18 Further, as the coal purchase during a month is generally not utilised in the same month, hence, there is a variation in above computed coal price vis-à-vis coal price as considered by TPC-G for energy charge calculations. The cost of coal for energy charge computation pertains to coal consumed during the respective months which is arrived based on the actual cost of coal inventory as well as the purchased coal cost received in the coal yard.

5.19 From the Table above, the basic purchase cost of imported coal including freight during the month of January, 2024 is $76.25/MT. TPC has booked Rs. 8,097.51/MT (i.e. Rs. 7,058.81/MT for Coal and Rs. 1,038.70/MT for freight). Also, other coal handling charges such as insurance, handling and wharfage charges, taxes and duties, clean energy cess and other miscellaneous charges considered by TPC are in line with the average prices approved in the previous quarters. However, in other adjustments charges of coal computation, TPC-G has claimed demurrage / dispatch charges in the month of January 2024 of Rs. 59,92,792.93. In response to data gaps raised by the Commission pertaining to dispatch/demurrage cost claimed, TPC-G submitted in order to optimise the generation cost it has taken initiative to buy coal at lower prices through various new contracts. Further, tendering process for such shipment has been done as per generation planning with different shippers/miners/coal suppliers. The long-term contract of TPC-G with the vessel owner has different terms related to rate of loading/unloading as compared to the contracts with the new Coal suppliers, and on the basis of these, demurrage/dispatch is being calculated. There is mismatch between the long term contracted loading/unloading rates (MT/day) with the vessel owner and the new loading rates (MT/day) of the new coal suppliers. This situation leads to variation in loading time and ultimately resulted in dispatch/demurrage cost. The Commission is of the view that any charges related to demurrage / dispatch arise when the coal buyer fails to promptly move or unload vessels within specified timeframe, resulting in charges being treated as penalties to coal buyer i.e., TPC-G. Hence, the Commission is of the view that, passing through such penalty charges to the end consumer shall not be allowed. In view of the above, demurrage/dispatch charges for January 2024 are deducted from coal cost computation and not allowed to be recovered. Accordingly, the total landed cost of coal arrived is Rs. 8,050.70/MT. Accordingly, the break-up of the cost as submitted by TPC-D and as considered by the Commission against the procurement of coal for the month of January, 2024 is as given below:

Table 8: Computation of Coal cost for the month of January 2024

Sr. No	Particular	Source / Formula	Units	As Submitted – Coal Cost	As Approved – Coal Cost
1	Basic Coal cost + Freight in Rs.	1 X 2	Rs./MT	7,058.81	7,058.81
2	Excise + Custom Duty + CE Cess+ Insurance	As submitted	Rs./MT	764.03	764.03
3	Handling and Wharfage	As submitted	Rs./MT	666.43	666.43
4	Other Fuel Handling Charges	As submitted	Rs./MT	338.15	338.15
5	Other Adjustment	As submitted	Rs./MT	(729.91)	(776.71)
6	Total as per Form 12	Sum (3:7)	Rs./MT	**8,097.51**	**8,050.70**

5.20 Apart from above, the Commission has also sought for third party sampling report for GCV verifications. TPC has submitted the third-party sampling certificate for the respective period. The Commission has verified the document submitted and found to be in order. Further, the 'As received' GCV of imported coal received in January 2024 was 3942 kCal/kg and 'As billed' GCV was 4043 kCal/kg. The 'As fired' GCV of imported coal considered by TPC-G is 3906 kCal/kg. Considering the difference between the 'As received' GCV and the 'As Fired' GCV, the stacking loss works out to 36 kCal/kg which is within limit of 120 kCal/kg as specified in the MYT Regulations, 2019. Therefore, TPC-G has considered the stacking loss as per norms approved by the Commission while computing the Energy Charges. The transit loss claimed by TPC-D for the month of January 2024 is Nil.

5.21 The Commission notes that TPC-D in Form 12 had considered coal consumption cost during the month based on usage of coal and not on weighted average of opening inventory and coal purchased during the month. The Commission in its FAC approval for the month of December, 2022 has already directed TPC-G that weighted average rate of computing coal cost should be followed by TPC-G as similar methodology is also being followed by other generators within the State and accordingly raise the FAC bill from April 2023 onwards as per the weighted average method of computation of coal cost. Accordingly, the Commission has recomputed the cost of coal from December 2022 onwards and considered the coal cost for January 2024 as given below:

Month	Opening inventory actual			Purchase during the month			Consumption during the month			Closing inventory actual		
	Qty	Cost	Price	Qty	Cost	Price	Qty	Cost	Price	Qty	Cost	Price
	MT	Rs.	Rs./MT	MT	Rs.	Rs./ MT	MT	Rs.	Rs./ MT	MT	Rs.	Rs./M T
	As Submitted by TPC											
Jan-24	1,69,644	1,39,73,89,310	8,237	2,64,243	2,13,97,08,840	8,098	2,28,915	1,86,61,44,29 3	8,152	2,04,971	1,67,09,53,858	8,152
	As approved by the Commission											
Dec-22	2,65,358	3,93,58,62,379	14,832	1,11,805	1,74,33,02,416	15,592	1,83,607	2,76,46,76,98 6	15,058	1,93,556	2,91,44,87,810	15,058
Jan-23	1,93,556	2,91,44,87,810	15,058	1,26,944	1,95,38,39,169	15,391	1,31,388	1,99,57,48,81 9	15,190	1,89,112	2,87,25,78,160	15,190
Feb-23	1,89,112	2,87,25,78,160	15,190	52,082	59,38,07,523	11,401	1,31,526	1,89,02,57,21 9	14,372	1,09,669	1,57,61,28,464	14,372
Mar-23	1,09,669	1,57,61,28,464	14,372	2,02,747	2,08,16,24,286	10,267	1,93,459	2,26,50,11,20 3	11,708	1,18,957	1,39,27,41,547	11,708
Apr-23	1,18,957	1,39,27,41,547	11,708	3,11,014	3,01,76,21,158	9,703	2,09,575	2,14,96,88,99 9	10,257	2,20,395	2,26,06,73,706	10,257
May-23	2,20,395	2,26,06,73,706	10,257	2,19,752	1,99,36,16,399	9,072	2,31,854	2,24,10,10,97 3	9,666	2,08,293	2,01,32,79,132	9,666
Jun-23	2,08,293	2,01,32,79,132	9,666	2,26,456	2,32,04,79,126	10,247	2,20,999	2,20,30,09,19 4	9,968	2,13,750	2,13,07,49,064	9,968
Jul-23	2,13,750	2,13,07,49,064	9,968	1,50,897	1,28,17,53,768	8,494	1,43,818	1,34,59,01,84 3	9,358	2,20,829	2,06,66,00,990	9,358
Aug-23	2,20,829	2,06,66,00,990	9,358	2,11,625	1,66,27,49,163	7,857	2,12,793	1,83,50,59,20 4	8,624	2,19,661	1,89,42,90,948	8,624

Sept-23	2,19,661	1,89,42,90,948	8,624	1,76,174	1,39,05,45,265	7,893	2,28,690	1,89,77,82,869	8,298	1,67,145	1,38,70,53,344	8,298
Oct-23	1,67,145	1,38,70,53,344	8,298	1,64,693	1,31,88,70,114	8,008	2,49,604	2,03,53,57,252	8,154	82,234	67,05,66,206	8,154
Nov-23	82,234	67,05,66,206	8,154	3,04,978	2,48,77,08,205	8,157	2,19,152	1,78,75,02,196	8,156	1,68,060	1,37,07,72,215	8,156
Dec-23	1,68,060	1,37,07,72,155	8,156	2,29,635	1,90,82,09,359	8,310	2,28,051	1,88,02,74,373	8,245	1,69,644	1,39,87,07,141	8,245
Jan-24	1,69,644	1,39,87,07,141	8,245	2,64,243	2,12,73,40,959	8,051	2,28,915	1,86,03,14,457	8,127	2,04,971	1,66,57,33,643	8,127

5.22 As seen from above table, there is difference of Rs. (25.47)/MT between TPC's approach vis a vis weighted average methodology of opening inventory and coal purchased during the month. Accordingly, the Commission has recomputed the energy charges which decreased to Rs. 5.67/kWh and Rs. 5.54/kWh from Rs. 5.69/kWh and Rs. 5.55/kWh for Unit-5 and Unit-8, respectively and considered the same in FAC approval. Also, the Commission directs TPC-G to refund the differential in cost in the next monthly bill from TPC-D and BEST.

5.23 It is observed that there is difference in coal cost considered in Form 11 and Form 12. TPC-D submitted that the difference in the cost is due to Foreign exchange variation due to difference in dollar rate at the time of booking of Purchase Order and the actual payment made to vendor and the employee cost. Accordingly, the coal consumption cost considered by the Commission as per Form 11 is as given below:

Table 9: Coal Consumption Cost for the month of January 2024 of TPC-G

Particulars	Units	TPC Submission	As Approved
Form F12 - Coal Consumption Cost	Rs/MT	8,152.13	8,126.66
Foreign Exchange Rate Variation	Rs/MT	(44.38)	(44.38)
Employee Cost	Rs/MT	32.35	32.35
Form F11 - Coal Consumption Cost	Rs/MT	8,140.10	8,114.63

5.24 **In view of the above, the Commission has considered APPC of Rs. 5.90/kWh as against approved rate of Rs. 7.10/kWh for power purchased from TPC-G.**

5.25 Variation in power purchase expenses from TPC-G can be divided on account of change in quantum and per unit rate as follows:

Month	Increase in Expenses for power purchase from TPC-G (Rs. Crore)		
	On Account of change Quantum of Power Purchase	On Account of change in Per Unit rate of Power Purchase	Total
January 2024	3.48	(32.13)	(28.65)

Out of above, variation on account of increased per unit rate is only considered for FAC computation.

<u>**Manikaran Power Limited (Medium Term PPA)**</u>

5.26 The Commission in its Order in Case No. 249 of 2018 dated 2 January, 2019, allowed BEST to tie up 100 MW Power with M/s. Manikaran Power Ltd. through M/s. Sai Wardha Power Generation Ltd for 5 years from 1 April, 2019 to 31 March, 2024 and accordingly Medium Term PPA was signed on 24 May 2019. Further, as per the Tariff order dated dated 31 March, 2023, allowed extension of PPA for 1 year i.e., up to March 2025.

5.27 As submitted by BEST, it has purchased 73.55 MU at average rate of Rs. 4.20/kWh as against approved rate of Rs. 4.35/kWh. The reduction in rate is due to higher Availability and PLF of the said plant which has resulted in higher quantum above 85% PLF being available at only Variable Charge and Incentive as per terms of the PPA. The incentive is payable at the rate of 50% of the Fixed Charge for Availability in excess of Normative Availability and shall be payable only to the extent of despatch of the power station above Normative Availability.

5.28 Accordingly, the Commission has considered the said purchase from Manikaran Power Limited for the month of January 2024 as per invoice submitted by BEST. The details of approved v/s actual are as shown in the table below:

Table 10: Power Procurement from Manikaran Power Limited for the month of January 2024

Source	Power Purchase Quantum (MU)	Fixed Cost (Rs. Crore)	Fixed Cost (Rs./kWh)	Variable Cost (Rs. Crore)	Variable Cost (Rs. /kWh)	Total Cost (Rs. Crore)	APPC (Rs. /kWh)
Approved	62.22	13.00	2.09	14.06	2.26	27.06	4.35
Actual	73.55	13.22	1.80	17.71	2.41	30.92	4.20

5.29 Variation in power purchase expenses from Manikaran Power Limited (MPL) can be divided on account of change in quantum and per unit rate as follows:

Month	Increase in Expenses for power purchase from MPL (Rs. Crore)		
	On Account of change Quantum of Power Purchase	On Account of change in Per Unit rate of Power Purchase	Total
January 2024	4.76	(0.90)	3.86

Out of above, variation on account of increased per unit rate is only considered for FAC computation.

<u>Renewable Sources</u>

5.30 BEST has entered into Long term PPA for 20 MW with M/s Walwahn Solar MH Ltd (earlier Welspun) to meet its Solar RPO. The Commission in the Tariff Order has approved the purchase of solar power from the said PPA at Rs. 8.56/kWh.

5.31 **BEST has purchased 2.91 MU of Solar Power at Rs. 8.56/kWh for January 2024 from M/s. Walwahn Solar MH Ltd.** The Commission has verified the said purchase from the invoice submitted by BEST and has accordingly considered the said solar purchase for FAC.

5.32 In addition to the above, BEST has procured Solar and Non-solar Power under Green Day ahead (GDAM) launched by IEX at its power trading platform, so as to meet part of its Solar and Non-Solar RPO. Accordingly, for the month of January 2024, BEST has procured 0.03 MU and 0.02 MU at Rs. 4.48/kWh and Rs. 4.60/kWh of Solar and Non-Solar, respectively. The overall power procured through GDAM is 0.05 MU at Rs.

4.52/kWh.

5.33 Apart from the above approved power procurement source from Walwahn Solar MH Ltd., no additional Long term Solar and Non-Solar power has been procured under bidding route for the month of January 2024. Also, the Commission notes that BEST has not purchased any solar/non-solar REC.

5.34 Accordingly, as submitted by BEST, it has purchased overall renewable power of 2.96 MU at average rate of Rs. 8.49/kWh as against approved rate of Rs. 5.02 /kWh.

5.35 Variation in power purchase expenses from RE Sources can be divided on account of change in quantum and per unit rate as follows:

Month	Increase in Expenses for power purchase from RE Sources (Rs. Crore)		
	On Account of change Quantum of Power Purchase	On Account of change in Per Unit rate of Power Purchase	Total
January 2024	(66.00)	28.02	(37.98)

Out of above, variation on account of increased per unit rate is only considered for FAC computation.

<u>Short Term Purchase</u>

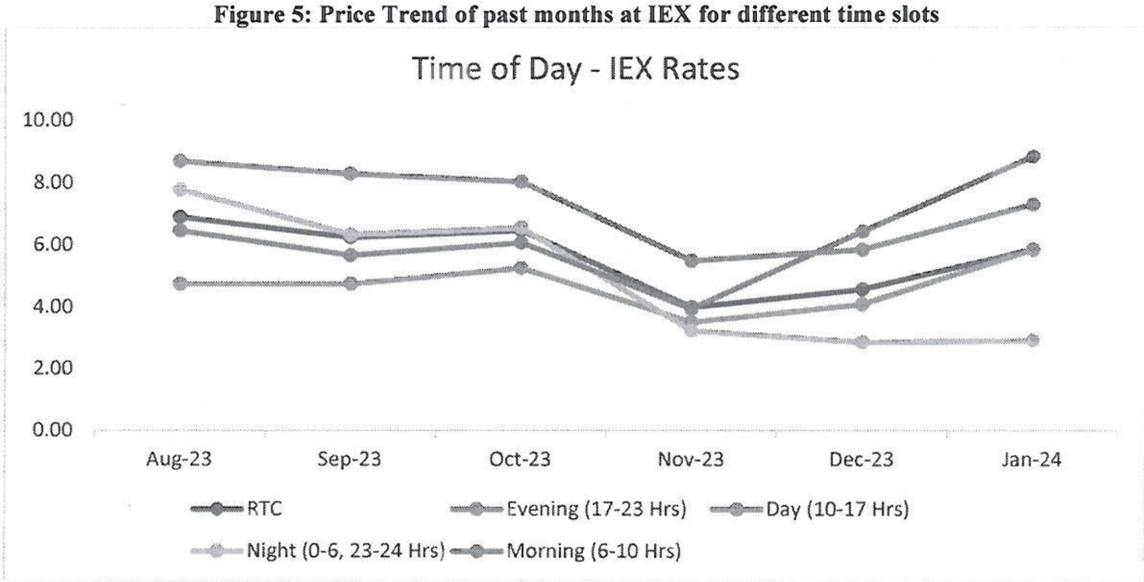
5.36 **With regards to short term purchase, BEST has purchased 23.58 MU at an average rate of Rs. 6.52/kWh.** The Commission in the Tariff Order has approved the purchase from short term source at Rs. 7.43/kWh. The overall power purchased short term source was about 6.47% of net power procured during the month of January, 2024 mainly to meet the shortfall during day-time.

5.37 BEST has purchased 11.68 MU at Rs. 4.37/kWh and 11.90 MU at Rs. 4.99/kWh from DAM and RTM respectively through IEX in the month of January, 2024. It has been observed that it has not purchased power from bilateral market through competitive bidding. The Commission, vide order dated 31 March, 2023 in Case No. 37 of 2023 has approved power procurement on short term basis for the period from April 2023 to March 2024.

5.38 BEST has claimed prior period variation against standby charges bill raised by MSEDCL for the following months i.e., June 18, November 18, August 19, May 19, May 20, October 20, November 20, January 21 and February 21 of Rs. 5.27 Crore. In response the query raised by the Commission related to claiming of the standby charges after final truing up of the respective years, BEST submitted that the Commission has approved standby energy charges of Rs. 1.27 Crore for FY 2016-17 and FY 2017-18. Afterwards BEST has not received any standby energy charges bill from MSEDCL, and therefore, it has not claimed amount related to stand by energy charges in the final truing up FY 2018-19 and onwards. Also, the prior period variation related to Inter Discom Trade of December 2023, claimed by BEST in January 2024, amounted to Rs. 0.002 Crore. Hence, the Commission considered the standby energy charges bill submitted by BEST of Rs. 5.27 Crore in January 2024.

5.39 The market trend of past six months has been provided in the following graph with different time slot whereby it can be witnessed that from November 2023 onwards, the price has witnessed a relatively higher in peak hours and is above Rs. 5.50/kWh.

Figure 5: Price Trend of past months at IEX for different time slots



5.40 Considering the relatively higher trend of prices in the short-term market, the Commission has approved the short-term purchase by BEST for January, 2024.

Sale of Power

5.41 The Commission has observed that BEST and AEML-D has executed the agreement of Inter-Discom Sale of Power under MERC (Deviation Settlement Mechanism and Related Matters) Regulations, 2019 read with Scheduling and Dispatch code, which interalia provides guiding principles for exchange of power between utilities on Day-ahead and Intra-day basis.

" Para 6.3 of Statement of Reasons of DSM Regulations, 2019

6. 3. ..... Accordingly, the Commission has modified the provisions such that, such inter-se or bilateral sale / purchase of power on day to day basis may be undertaken by respective licensee entirely at the discretion and time block wise rate for settlement of such inter-se exchange of unrequisitioned surplus power for load generation balance during day ahead scheduling may be mutually agreed.

It is expected that these decisions shall be taken by the distribution licensees on the commercial principles."

Para 8.4.10 and 8.4.11 of Scheduling and Despatch Code:

8.4.10 As the sellers have contracted their generation capacity through long term / medium term contract with buyers, such exchange of available surplus *capacity shall be effected inter-se amongst buyers without need to amend existing PPAs with their respective sellers.*

8.4.11 MSLDC shall maintain and publish separate account of exchange of surplus power capacity if any amongst the buyers / distribution licensees."

5.42 **Accordingly, BEST has done sale of surplus power to the extent of 2.90 MU during the month at Rs. 9.30/kWh under the same arrangement and 7.86 MU was sold power exchange (IEX) at Rs. 9.43/kWh.** Therefore, to optimize power purchase cost, the surplus power of 10.77 MU was sold to AEML-D and TPC-D under Inter-Discoms Sale of Power Agreement and on power exchange from which BEST has earned Revenue of Rs. 10.12 Crore at Rs. 9.40/kWh. In view of the aforesaid, the Commission has considered the actual quantum and revenue against surplus sale.

Deviation Quantum and Cost

5.43 It was observed that BEST has overdrawn 0.09 MU during the month of January, 2024. **The said deviation quantum is arrived after grossing up T<>D periphery quantum to G<>T periphery by considering the normative transmission loss of 3.18%.** Accordingly, the deviation quantum of 0.09 MU at Rs. 0.31 Crore has been considered as per provisional weekly invoice raised by MSLDC for the period 1 January, 2024 to 31 January, 2024. Further, it is observed that TPC-G has not considered DSM and ADSM charges for calculation of energy charges as well as fixed charges. Also, BEST has considered only DSM charges and not considered ADSM charges for calculation of power purchase cost for deviation quantum.

5.44 **In view of the same, the Commission has considered total deviation quantum of 0.09 MU (overdrawal), which contributes to around 0.02% of the total power procurement, for Rs. 0.31 Crore.**

Approved Cost of Power Purchase

5.45 In view of the above, the overall cost approved in the Tariff Order and actual for the month of January, 2024 considered by the Commission is as shown below:

Table 11: Approved Power Purchase Cost for the month January 2024

Particulars	Source	Power Purchase Quantum (MU)	Fixed Cost (Rs. Crore)	Fixed Cost (Rs. /kWh)	Variable Cost (Rs. Crore)	Variable Cost (Rs. /kWh)	Total Cost (Rs. Crore)	APPC (Rs. /kWh)
TPC-G	Approved	269.28	34.56	1.28	156.55	5.81	191.11	7.10
	Actual	275.17	35.32	1.28	127.14	4.62	162.46	5.90
Manikaran Power	Approved	62.22	13.00	2.09	14.06	2.26	27.06	4.35
	Actual	73.55	13.22	1.80	17.71	2.41	30.92	4.20
Renewable Power	Approved	80.67	-	-	40.49	5.02	40.49	5.02
	Actual	2.96			2.51	8.49	2.51	8.49
Short Term Purchase	Approved	16.55	-	-	12.30	7.43	12.30	7.43
	Actual	23.58			15.36	6.52	15.36	6.52
Sale of Power	Approved	-	-	-	-	-	-	-
	Actual	(10.77)			(10.12)	9.40	(10.12)	9.40

Particulars	Source	Power Purchase Quantum (MU)	Fixed Cost (Rs. Crore)	Fixed Cost (Rs. /kWh)	Variable Cost (Rs. Crore)	Variable Cost (Rs. /kWh)	Total Cost (Rs. Crore)	APPC (Rs. /kWh)
Deviation Quantum	Approved	-	-	-	-	-	-	-
	Actual	0.09	-	-	0.31	36.34	0.31	36.34
Total	**Approved**	**428.72**	**47.56**	**1.11**	**223.40**	**5.21**	**254.26**	**5.93**
	Actual	**364.58**	**48.54**	**1.33**	**152.92**	**4.19**	**201.46**	**5.53**

5.46 **Considering the above submission, the Commission allows the power purchase quantum of 364.58 MU for total cost of Rs. 201.46 Crore at average power purchase cost of Rs. 5.53/kWh for the month of January, 2024 as shown in Table above. The actual purchase for same month in FY 2022-23 i.e., January, 2023 was 394.98 MU and power purchase cost was Rs. 216.23 Crore with APPC of Rs. 5.47/kWh.**

Summary

5.47 **To summarise, BEST has optimised its overall power purchase cost by selling surplus power of quantum 10.77 MU at Rs. 9.40/kWh on IEX and to AEML-D and TPC-D through Inter Discom sale of power and procuring 73.55 MU at Rs. 4.20/kWh from Manikaran Power Limited.**

5.48 **Entire power purchased from Manikaran Power Ltd to the extent of its Availability having the least Variable Cost is in MOD.**

6. FAC on account of fuel and power purchase cost (F)

6.1 The Commission has worked out the average power purchase cost for the month of January, 2024 as shown in above table. The same has been compared with the average power purchase cost approved by the Commission in Tariff Order dated 31 March, 2023 and accordingly arrived at differential per unit rate at which Z_{FAC} is to be passed on to the consumers.

6.2 It is noted that BEST has incurred the per unit Power Purchase cost which is lower than the limits Approved per unit Power Purchase Cost hence the Z_{FAC} January, 2024 is negative as shown in the Table below.

Table 12: Computed Z_{FAC} for the month of January 2024

S. No.	Particulars	Units	January 2024
1	Average power purchase cost approved by the Commission	Rs./kWh	5.93
2	Actual average power purchase cost	Rs./kWh	5.53
3	Change in average power purchase cost (=2 -1)	Rs./kWh	(0.40)
4	Net Power Purchase	MU	364.58
5	**Change in fuel and power purchase cost (=3 x 4/10)**	**Rs. Crore**	(14.76)

7. **Adjustment for over recovery/under recovery (B)**

7.1 The adjustment for over recovery/under recovery has to be done for the (n-4) month as per provisions of MYT Regulations, 2019. As no FAC has been levied, there would not be any adjustment factor for the month of January 2024 while computing the allowable FAC.

8. **Carrying Cost for over recovery/under recovery (C)**

8.1 As explained in the above paragraph, in absence of any adjustment factor for previous month, there is no carrying cost which is to be allowed in FAC for the month of January 2024.

9. **Disallowance due to excess Distribution Loss**

9.1 Regulation 10.8 of MYT Regulations, 2019 provides for FAC amount to be reduced in case the actual distribution loss for the month exceeds the approved distribution loss. The relevant extract is reproduced as follows.

"10.8 The total Z_{FAC} recoverable as per the formula specified above shall be recovered from the actual sales in terms of "Rupees per kilowatt-hour":

Provided that, in case of unmetered consumers, the Z_{FAC} shall be recoverable based on estimated sales to such consumers, computed in accordance with such methodology as may be stipulated by the Commission:

Provided further that, where the actual annual sliding distribution losses of the Distribution Licensee exceed the level approved by the Commission, the amount of Z_{FAC} corresponding to the excess distribution losses (in kWh terms) shall be deducted from the total Z_{FAC} recoverable"

9.2 The following table provides the comparison of approved and actual distribution loss and disallowance due to excess distribution loss if any.

Table 13: Distribution Loss for the month of January 2024

S. N	Particulars	Units	Approved in Tariff Order	January 2024-Actual	Actual Cumulative (January 2024)	Annual Sliding Distribution Loss (Feb 2023 to Jan 2024)
1	Net Energy Input at Distribution Voltage	MU	4,933.20	352.72	4,203.50	4,927.92
2	BEST Retail Sales	MU	4,726.99	355.14	4,045.67	4,722.53
3	Distribution Loss (1 - 2)	MU	206.21	(2.42)	157.83	205.39
4	Distribution Loss as % of net energy input (3/1)	%	4.18%	-0.69%	3.75%	4.17%
5	Excess Distribution Loss = [Actual Distribution Loss (4)	MU		-	-	-

S. N	Particulars	Units	Approved in Tariff Order	January 2024-Actual	Actual Cumulative (January 2024)	Annual Sliding Distribution Loss (Feb 2023 to Jan 2024)
	- Distribution loss approved (4)] x Net Energy Input (1)					
6	**Disallowance of FAC due to excess Distribution Loss**	**Rs. Crore**	**0.00**	**0.00**	**0.00**	**0.00**

9.3 As seen from the above table, for the month of January, 2024 the standalone distribution loss is negative and lower than the approved distribution loss. BEST stated that by considering net energy input at distribution voltage of 352.72 MU for the month of January, 2024 and actual energy sales of 355.14 MU for the month of January, 2024, the Standalone Actual Distribution Loss works out to -0.69%, however annual sliding distribution loss (from February, 2023 to January, 2024) works out to 4.17%, which is marginally lower than the approved distribution loss. The standalone distribution loss for the month may give erratic figure due to consideration of energy sales with different bill generation period. Hence, to determine the actual distribution loss for a month, sum of purchase and sales for a period of 12 months is required to be considered. It is observed that the annual sliding distribution loss of 4.17% for the period February, 23 to January, 24 is lower than the approved loss.

9.4 Further, the comparison of standalone Distribution Loss for the January, 2024 as compared to last year is as given below:

Table 14: Monthly Distribution Loss of FY 2022-23 and FY 2023-24

Particulars	FY 2023-24	FY 2022-23
Approved Loss	**4.18%**	**4.18%**
April	6.43%	11.09%
May	9.52%	3.26%
June	9.26%	1.83%
July	-5.25%	1.43%
August	10.36%	2.84%
September	0.26%	0.25%
October	10.97%	4.11%
November	-6.16%	-3.18%
December	-1.11%	6.66%
January	-0.69%	-5.67%
Cumulative	**3.75%**	**2.57%**

9.5 **It is observed that annual sliding Distribution Loss of 4.17% is lower that the approved loss of 4.18% and the standalone FAC for the month is negative. Hence, the Commission has not worked out any disallowance on account of Distribution Loss for the month of January, 2024.**

10. Summary of Allowable ZFAC

10.1 The summary of the FAC amount as approved by the Commission for the month of January, 2024 is as shown in the Table below.

Table 15: Summary of Allowable Z_{FAC} for January, 2024

S. No.	Particulars	Units	January 2024 - As per BEST	January 2024 - As Approved
1	**Calculation of ZFAC**			
1.1	Change in cost of generation and power purchase attributable to Sales within the License Area (F)	Rs. Crore	(14.45)	(14.76)
1.2	Carrying cost for over-recovery/under-recovery (C)	Rs. Crore	-	-
1.3	Adjustment factor for over-recovery/under-recovery (B)	Rs. Crore	-	-
1.4	**ZFAC = F+C+B**	Rs. Crore	(14.45)	(14.76)
2	**Calculation of Per Unit FAC**			
2.1	Energy Sales within the License Area	MU	355.14	355.14
2.2	Excess Distribution Loss	MU	-	-
2.3	ZFAC per kWh	Rs./kWh	(0.41)	(0.42)
3	**Allowable FAC**			
3.1	FAC disallowed corresponding to excess Distribution Loss [(2.2 x 2.3)/10]	Rs. Crore	-	-
3.2	FAC allowable [1.4-3.1]	Rs. Crore	(14.45)	(14.76)
4	**Utilization of FAC Fund**			
4.1	Opening Balance of FAC Fund	Rs. Crore	(115.13)	(135.25)
4.2	Holding Cost on FAC Fund	Rs. Crore	(4.44)	(1.11)
4.3	Z_{FAC} for the month (Sr. N. 3.2)	Rs. Crore	(14.45)	(14.76)
4.4	Closing Balance of FAC Fund	Rs. Crore	(134.02)	(151.12)
4.5	Z_{FAC} leviable/refundable to consumer	Rs. Crore	-	-
5.0	Energy Sales within the License Area	MU	355.14	355.14
6.0	ZFAC per kWh [(4.5/5.0)*10/5]	Rs./kWh	-	-
7.0	**Total FAC based on category wise and slab wise allowed to be recovered**	**Rs. Crore**	-	-
8.0	**Carried forward FAC for recovery during future period (4.5-7.0)**	**Rs. Crore**	(134.02)	(151.12)

10.2 It can be seen from the above table that standalone FAC for the month of January 2024 is Rs. (14.76) Crore. The negative FAC approved for the month is higher in view of the lower average power purchase cost than the approved power purchase cost in the month January 2024. As the FAC is negative, the said amount will be accumulated in FAC Fund for stabilisation of FAC rate over the period.

11. **Recovery from Consumers:**

11.1 Regulation 10.9 of MYT Regulations, 2019 provides for methodology of recovery of FAC charge from each category of consumers. The relevant extract is reproduced as below.

"10.9 The ZFAC per kWh for a particular Tariff category/sub-category/consumption slab shall be computed as per the following formula: —

*$Z_{FAC\ Cat}$ (Rs/kWh) = [Z_{FAC} / (Metered sales + Unmetered consumption estimates + Excess distribution losses)] * k * 10,*

Where:
$Z_{FAC\ Cat}$ = Z_{FAC} component for a particular Tariff category/sub-category/consumption slab in 'Rupees per kWh' terms;
k = Average Billing Rate / ACOS;

Average Billing Rate = Average Billing Rate for a particular Tariff category/sub-category/consumption slab under consideration in 'Rupees per kWh' as approved by the Commission in the Tariff Order:

Provided that the Average Billing Rate for the unmetered consumers shall be based on the estimated sales to such consumers, computed in accordance with such methodology as may be stipulated by the Commission:

ACOS = Average Cost of Supply in 'Rupees per kWh' as approved for recovery by the Commission in the Tariff Order:

Provided that the monthly Z_{FAC} shall not exceed 20% of the variable component of Tariff or such other ceiling as may be stipulated by the Commission from time to time:

Provided further that any under-recovery in the Z_{FAC} on account of such ceiling shall be carried forward and shall be recovered by the Distribution Licensee over such future period as may be directed by the Commission...."

11.2 **Accordingly, the Commission allows the FAC amount of Rs. (14.76) Crore for the month of January, 2024 to be added to the FAC fund and FAC amount accumulated shall be carried forward to the next billing with holding cost to the next billing cycle.**

11.3 **The Commission in its approval for the month of December, 2023 has allowed Rs. (135.25) Crore to be accumulated in the FAC fund to be carried forward to the next billing cycle with holding cost. Hence, the net opening balance of FAC is Rs. (136.37) Crore along with holding cost.**

11.4 **The Commission in the MTR Order dated 31 March 2023 had held that negative FAC amount may be carried forward to the next FAC billing cycle with holding cost. Such carry forward of negative FAC shall be continued till next tariff determination process. Accordingly, the Commission allows the FAC amount of**

Rs. (14.76) Crore for the month of January, 2024 to be as added to the FAC Fund and total amount of Rs (151.12) Crore shall be carried forward to the next billing cycle with holding cost.

11.5 **In a view of above, the per unit ZFAC for the month of January, 2024 to be levied on consumers of BEST is Nil.**